

FABRICATION OF A HIGH-STRENGTH STEEL ARTICLE  
WITH INCLUSION CONTROL DURING MELTING

ABSTRACT OF THE DISCLOSURE

A steel article is fabricated by providing an iron-base alloy having less than  
5 about 0.5 weight percent aluminum, melting the alloy to form a melt, adding  
calcium to the melt, thereafter adding aluminum to the melt to increase the  
aluminum content of the melt to more than about 0.5 weight percent aluminum,  
and casting the melt to form a casting. Other calcium additions may be made  
10 simultaneously with the adding of aluminum, and after the adding of aluminum  
but before casting the melt. The calcium additions deoxidize the melt to minimize  
the formation of clustered aluminum-oxygen-based inclusions.